

APPENDIX C

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
STATEMENT OF WORK FOR RD/RA**

**GURLEY PESTICIDE BURIAL SITE
SELMA, NORTH CAROLINA**

STATEMENT OF WORK FOR RD/RA
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**Gurley Pesticide Site
RD/RA Statement of Work**

I. INTRODUCTION

This Statement of Work (SOW) outlines the work to be performed by Settling Defendants at the Gurley Pesticide Burial Site, Johnston County, North Carolina (the Site). The work outlined is intended to implement the remedy as described in the Record of Decision (ROD), dated September 28, 2006, and to achieve the Performance Standards set forth in the ROD, Consent Decree and this SOW. The requirements of this SOW will be further detailed in work plans and other documents to be submitted by the Settling Defendants for approval as set forth in this SOW. It is not the intent of this document to provide task specific engineering or geological guidance. The definitions set forth in Section IV of the Consent Decree shall also apply to this SOW unless expressly provided otherwise herein.

Settling Defendants are responsible for performing the Work to implement the selected remedy. EPA shall conduct oversight of the Settling Defendants' activities throughout the performance of the Work. The Settling Defendants shall assist EPA in conducting oversight activities.

Except where otherwise provided, EPA review or approval of a task or deliverable shall not be construed as a guarantee as to the adequacy of such task or deliverable. If EPA modifies a deliverable pursuant to Section XI of the Consent Decree, such deliverable as modified shall be deemed approved by EPA for purposes of this SOW. A summary of the major deliverables that Settling Defendants shall submit for the Work is attached.

II. OVERVIEW OF THE REMEDY

THE OBJECTIVES OF THIS REMEDIAL ACTION ARE TO:

Prevent potential human exposure to lead in soil that is present above cleanup levels.

Prevent migration of lead and other contaminants of concern from soil to groundwater that would result in groundwater concentrations in excess of ARARs or which might otherwise present an unacceptable risk;

Eliminate or reduce the potential risks to ecological receptors exposed to lead and other contaminants of concern identified in the ROD;

Prevent potential human exposure to groundwater containing contaminants of concern that may exceed ARARs;

Restore groundwater quality to achieve groundwater ARARs;

Prevent or reduce the potential release of hazardous substances, pollutants and contaminants to surface water bodies and wetlands at the Site;

Use appropriate institutional controls to limit future use of the Site in order to protect future human users of the Site.

Perform the necessary monitoring to evaluate the progress and effectiveness of the remedy.

III. REMEDY COMPONENTS

The remedy includes excavation and proper offsite disposal of contaminated soils, a permeable reactive barrier (or other techniques approved by EPA) for the in-situ treatment of contaminated groundwater, institutional controls to limit future use of the Site and thus limit potential future exposure to contaminants, and groundwater monitoring.

A. Components

The major components of the remedy are described in Section 2.12, Selected Remedy section of the attached Record of Decision.

B. Performance Standards

Settling Defendants shall meet all Performance Standards, as defined in the Consent Decree and refined in the Remedial Design, including clean-up levels and Remedial Action Objectives set forth in the attached Record of Decision, and in accordance with the Performance Standards Verification Plan.

C. Compliance Testing

Settling Defendants shall perform compliance testing to ensure that the Performance Standards are met. The testing shall be performed in accordance with the Performance Standard Verification Plan and Operation and Maintenance Plan, developed pursuant to Tasks IV and V of this SOW. After confirmation of

compliance, routine monitoring will be discontinued. If monitoring indicates that the Performance Standards as set forth in Section 2.12 of the Record of Decision, the Consent Decree, and the Performance Standards Verification Plan are not being achieved, EPA may reevaluate the effectiveness of the remedy.

IV PLANNING AND DELIVERABLES

The specific scope of this work shall be documented by Settling Defendants in a Remedial Design (RD) Work Plan and a Remedial Action (RA) Work Plan. Plans, specifications, submittals, and other deliverables shall be subject to EPA review and approval in accordance with Section XI of the Consent Decree.

Settling Defendants shall document any need for additional data along with the proposed Data Quality Objectives (DQOs) whenever such requirements are identified. Settling Defendants are responsible for fulfilling additional data and analysis needs identified by EPA during the RD/RA process consistent with the general scope and objectives of the Consent Decree, including this SOW. Settling Defendants shall perform the following tasks with respect to implementation of the remedy specified in the ROD:

TASK I - COMMUNITY RELATIONS

The development and implementation of community relations activities are the responsibility of EPA. At the Remedial Design stage, EPA is required to review the Community Relations Plan developed for the RI/FS and to amend the plan as appropriate.

Although implementation of the community relations plan is the responsibility of EPA, if requested by EPA, the Settling Defendants shall assist EPA by providing information regarding the history of the Site and participating in public meetings. In addition, upon request by EPA, the Settling Defendants shall prepare a plan (hereinafter referred to as the Technical Assistance Plan or TAP), equivalent to and consistent with the EPA Technical Assistance Program as set forth in 40 C.F.R. " 35.4000 et. sec. and subject to EPA's approval, for providing and administering \$50,000.00 of the Settling Defendants' money to fund a qualified community group to hire independent technical advisors to help interpret and comment on Site-related documents developed under this SOW.

Any eligible community group must meet the requirements set forth in 40 C.F.R. '30.21, 40 C.F.R. '35.4020(b), 40 C.F.R. '35.4055, 40 C.F.R. '35.21, 40 C.F.R. " 35.4020 (a)2 and (a)3, 40 C.F.R. " 35.4030, 40 C.F.R. " 35.4045, 40 C.F.R. " 35.4050, 40 C.F.R. "35.4070, 40 C.F.R. " 35.4075. These sections include but are not limited to the following requirements:

- 1) The group must be a representative group of individuals potentially affected by the Site,
- 2) The group must be incorporated as a nonprofit organization for the purposes of the

- Site or established as a charitable organization that operates within the geographical range of the Site and is already incorporated as a nonprofit organization.
- 3) The group must provide at least 20% matching funds unless EPA waives the match under 40 C.F.R. '35.4055.
 - 4) The TAP funds must be used for reimbursement of technical review and technical advisory work performed by approved technical advisors. Under no circumstances may the funds be used for attorney fees or legal services.
 - 5) Any group is ineligible if it fails to meet any of these requirements or if it falls within any of the categories listed in 40 C.F.R. '35.4020(b).

As part of the Technical Assistance Plan, the Settling Defendants must propose a method, including an application process and eligibility criteria, for awarding and administering the funds above. Selection criteria should be consistent with 40 C.F.R.. '35.4155. Funds may be awarded to only one qualified group for purposes of this Consent Decree and Statement of Work.

Also as part of the TAP, Settling Defendants shall include a proposed plan for documenting the eligibility of the selected community group, and informing the group and EPA if it believes any individual member is ineligible (consistent with 40 C.F.R. '35.4030) to participate in the group. Settling Defendants shall also include a plan for informing the selected group of the activities that it can and cannot undertake with Settling Defendants' funds. The list of eligible and ineligible activities should be consistent with 40 C.F.R. "35.4070 and 35.4075, respectively. The TAP shall also include a proposal for offering and, if accepted, transferring up to \$5,000 to the selected group to cover its estimated need for funds for an initial start-up period.

Also as part of the TAP, Settling Defendants must include a plan for providing assistance to the selected community group in the solicitation for an independent Technical Advisor. As long as the group documents its selection and the advisor selected by the group satisfies the requirements specified in 40 C.F.R.. "35.4190 and 35.4195, Settling Defendants must accept the group's choice. Finally, Settling Defendants must include a proposed plan for negotiating a contract with the selected community organization. The contract must specify the duties of the Settling Defendants and the community group, respectively, and establish a dispute resolution process. Settling Defendants will provide to EPA a copy of the final contract.

The Settling Defendants may hire a third party to coordinate and administer the TAP. Additionally, the Settling Defendants must designate within thirty (30) days of EPA's approval of the TAP an Outreach Coordinator who will be responsive to the public's inquiries and questions about the Site, including information about the application process and the administration of the TAP. Settling Defendants must also propose a plan

for arranging for and hosting meetings between its Outreach Coordinator, the community group, the Technical Advisor, and other interested individuals.

If the community group demonstrates, consistent with the criteria specified in 40 C.F.R. '35.4065, that it needs additional funds for TAP activity, then Settling Defendants will provide the additional monies needed.

The extent of the Settling Defendants' involvement in community relations activities is left to the discretion of EPA. In addition to devising and administering the Technical Assistance Plan, all other community relations responsibilities EPA may assign to the Settling Defendants shall be specified in the community relations plan. All community relations activities conducted by Settling Defendants shall be subject to oversight by EPA.

TASK II – SOIL REMEDIAL DESIGN

The Remedial Design shall provide the technical details for implementation of the Remedial Action in accordance with currently accepted environmental protection technologies and standard professional engineering and construction practices. The design shall include clear and comprehensive design plans and specifications.

A. Remedial Design Planning

Within 60 days after EPA's issuance of an authorization to proceed pursuant to Paragraph 10 of the Consent Decree, Settling Defendants shall submit to EPA a draft RD Work Plan for the soil remediation including, a Sampling and Analysis Plan, and a Health and Safety Plan. To the extent possible, these plans may incorporate the sampling and analysis plan, quality assurance project plan and health and safety plan prepared for the RI/FS activities. The RD Work Plan and the Sampling and Analysis Plan must be reviewed and approved by EPA and the Health and Safety Plan reviewed and commented on by EPA prior to the initiation of field activities. Upon approval of the RD Work Plan, Settling Defendants shall implement the RD Work Plan in accordance with the design management schedule contained therein. Plans, specifications, submittals, and other deliverables shall be subject to EPA review and approval in accordance with Section XI of the Consent Decree. Review and/or approval of design submittals only allows Settling Defendants to proceed to the next step of the design process. It does not imply acceptance of later design submittals that have not been reviewed, nor that the remedy, when constructed, will meet Performance Standards.

1. RD Work Plan

Settling Defendants shall submit a Remedial Design (RD) Work Plan for Site Soils to EPA for review and approval. The Work Plan shall be developed in conjunction with the Sampling and Analysis Plan, and the Health and Safety Plan, although each plan may be delivered under separate cover. The Work Plan shall include a comprehensive description of the additional data collection and evaluation activities to be performed, and the plans and specifications to be prepared. A comprehensive design management schedule for completion of each major activity and submission of each deliverable shall also be included.

Specifically, the RD Work Plan shall present the following:

- a. A statement of the problem(s) and potential problem(s) posed by the Site and the objectives of the RD/RA for Site Soils.
- b. A background summary that references the approved RI, BERA and FS reports and presents a synopsis of applicable information including:
 - 1) A brief description of the Site including the geographic location and Site features.
 - 2) A brief synopsis of the history of the Site including past disposal practices.
 - 3) A brief summary of the existing data including physical and chemical characteristics of the contaminants identified and their distribution in environmental media at the Site.
- c. A list and detailed description of the tasks to be performed, information needed for each task, and information to be produced during and at the conclusion of each task.
- d. A description of the work products that shall be submitted to EPA. This description shall include the deliverables set forth in the remainder of Task II.
- e. A list of the required drawings, including preliminary sketches and layouts, describing conceptual aspects of the design, as appropriate, along with an outline of the required specifications, including a preliminary discussion of Performance Standards.
- f. A schedule for completion of each required activity and submission of each deliverable required by the Consent Decree

and this SOW. This schedule shall also include information regarding timing, initiation and completion of all critical path milestones for each activity and/or deliverable including EPA document review and approval. The schedule shall incorporate the uncertain length of agency review activities by reflecting in the Work Plan schedule the trigger date for revisions as the date of receipt of agency comments plus a specified number of days to address comments.

- g. A project management plan, including a data management plan, and provision for quarterly reports to EPA, and meetings and presentations to EPA at the conclusion of each major phase of the RD/RA. The data management plan shall address the requirements for project management systems, including tracking, sorting, and retrieving the data along with an identification of the software to be used, minimum data requirements, data format and backup data management. The plan shall address both data management and document control for all activities conducted during the RD/RA.
- h. A description of the community relations support activities to be conducted during the RD in a manner consistent with EPA's community relations plan developed separately. At EPA's request, Settling Defendants will assist EPA in preparing and disseminating information to the public regarding the RD work to be performed.
- i. A Wetland Restoration and Monitoring Plan. The wetland areas impacted by excavation and subsequent backfilling at the Site should be replaced by created wetlands (either on- or off-site) in order to make up for the loss of wetland and open water habitat functions resulting from the soil removal action. The final location, design, and performance criteria of this wetland mitigation should be outlined in a Wetland Restoration and Monitoring Plan. Excavated areas should be filled with appropriate local soil types and vegetated with native plant species.

2. Sampling and Analysis Plan

Settling Defendants shall prepare a Sampling and Analysis Plan (SAP) to ensure that sample collection and analytical activities are conducted in accordance with technically acceptable protocols and that the data

generated will meet the DQOs established. The SAP shall include a Field Sampling and Analysis Plan (FSAP) and a Quality Assurance Project Plan (QAPP).

The FSAP shall define in detail the sampling and data-gathering methods that shall be used on the project. It shall include sampling objectives, sample location (horizontal and vertical) and frequency, sampling equipment and procedures, and sample handling and analysis. The Field Sampling and Analysis Plan shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required. The QAPP shall describe the project objectives and organization, functional activities, and quality assurance and quality control (QA/QC) protocols that shall be used to achieve the desired DQOs. The DQOs shall, at a minimum, reflect use of analytical methods for obtaining data of sufficient quality to meet National Contingency Plan requirements as identified at 300.435 (b). In addition, the QAPP shall address personnel qualifications, sampling procedures, sample custody, analytical procedures, and data reduction, validation, and reporting. These procedures must be consistent with the Region IV Environmental Investigations Standard Operating Procedures and Quality Assurance Manual and with the guidances specified in Section VIII of the Consent Decree.

If a laboratory has not been previously approved for use on the Site, Settling Defendants shall demonstrate in advance and to EPA's satisfaction that the laboratory is qualified to conduct the proposed work and meets the requirements specified in Section VIII of the Consent Decree. EPA may require that Settling Defendants submit detailed information to demonstrate that the laboratory is qualified to conduct the work, including information on personnel qualifications, equipment and material specification, and laboratory analyses of performance samples (blank and/or spike samples). In addition, EPA may require submittal of data packages equivalent to those generated by the EPA Contract Laboratory Program (CLP). If a selected laboratory is not currently participating in the CLP, methods consistent with CLP methods that would be used at this Site for the purposes proposed and QA/QC procedures approved by EPA, shall be used.

3. Health and Safety Plan

A Health and Safety Plan shall be prepared in conformance with Settling Defendants' health and safety program, and in compliance with OSHA

regulations. The Health and Safety Plan shall include an appropriate health and safety risk analysis, a description of monitoring and personal protective equipment, medical monitoring, and provisions for Site control.

EPA will not approve Settling Defendants' Health and Safety Plan, but rather EPA will review it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and the environment.

B. Prefinal/Final Design

The Settling Defendants shall submit the Prefinal Design when the design work is approximately 90 percent complete in accordance with the approved design management schedule. The Prefinal Design shall function as the draft version of the Final Design. The Prefinal Design shall include:

1. Draft Plans and Specifications

Draft construction drawings and specifications for all components of the Remedial Action shall be prepared and presented. All plans and specifications shall conform with the Construction Specifications Institute Master Format, and the scope of the technical specifications shall be outlined in a manner reflecting the final specifications.

2. Draft Construction Schedule

Settling Defendants shall develop a Draft Construction Schedule for construction and implementation of the remedial action which identifies timing for initiation and completion of all critical path tasks. Settling Defendants shall identify estimated schedules for completion of the project and major milestones.

After EPA review and comment on the Prefinal Design, the Final Design shall be submitted along with a memorandum indicating how the Prefinal Design comments were incorporated into the Final Design. All Final Design documents shall be certified by a Professional Engineer registered in the State of North Carolina. EPA written approval of the Final Design is required before initiating the RA, unless specifically authorized by EPA. The following items shall be submitted with or as part of the Prefinal/Final Design:

1. Complete Design Analyses

The selected design shall be presented along with an analysis supporting the design approach. Design calculations shall be included.

2. Final Plans and Specifications

A complete set of construction drawings and specifications shall be submitted which describe the selected design.

3. Final Construction Schedule

Settling Defendants shall submit a final construction schedule to EPA for approval.

TASK III – SOIL REMEDIAL ACTION

Remedial Action shall be performed by Settling Defendants to implement the response actions selected in the ROD.

A. Remedial Action Planning

Within sixty (60) days of EPA approval of the Final Design, Settling Defendants shall submit a draft Remedial Action (RA) Work Plan, Project Delivery Strategy, a Construction Management Plan, a Construction Quality Assurance Plan, and a Construction Health and Safety Plan/Contingency Plan. The RA Work Plan, Project Delivery Strategy, Construction Management Plan, and Construction Quality Assurance Plan must be reviewed and approved by EPA and the Construction Health and Safety Plan/Contingency Plan reviewed by EPA prior to the initiation of the Remedial Action.

Upon approval of the RA Work Plan, Settling Defendants shall implement the RA Work Plan in accordance with the construction management schedule. Significant field changes to the RA as set forth in the RA Work Plan shall not be undertaken without the approval of EPA. The RA shall be documented in enough detail to produce as-built construction drawings after the RA is complete. Deliverables shall be submitted to EPA for review and approval in accordance with Section XI of the Consent Decree. Review and/or approval of submittals does not imply acceptance of later submittals that have not been reviewed, nor that the remedy, when constructed, will meet Performance Standards.

1. RA Work Plan

A Work Plan which provides a detailed plan of action for completing the RA activities shall be submitted to EPA for review and approval. The

objective of this Work Plan is to provide for the safe and efficient completion of the RA. The Work Plan shall be developed in conjunction with the Project Delivery Strategy, Construction Management Plan, the Construction Quality Assurance Plan, and the Construction Health and Safety Plan/Contingency Plan. These plans may be appended or delivered under separate cover. The Work Plan shall include a comprehensive description of the work to be performed and the Final Construction schedule for completion of each major activity and submission of each deliverable.

Specifically, the RA Work Plan shall present the following:

- a. A detailed description of the tasks to be performed and a description of the work products to be submitted to EPA. This includes the deliverables set forth in the remainder of Task III.
- b. A schedule for completion of each required activity and submission of each deliverable required by this Consent Decree, including those in this SOW.
- c. A project management plan, including provision for monthly reports to EPA during construction. EPA's Project Coordinator and the Settling Defendants' Project Coordinator will meet, at a minimum, on a quarterly basis, unless EPA determines that such meeting is unnecessary.
- d. A description of the community relations support activities to be conducted during the RA, consistent with the EPA prepared community relations plan. At EPA's request, Settling Defendants shall assist EPA in preparing and disseminating information to the public regarding the RA work to be performed.

2. Project Delivery Strategy

Settling Defendants shall submit a document to EPA for review and approval describing the strategy for delivering the project. This document shall address the management approach for implementing the Remedial Action, including procurement methods and contracting strategy, phasing alternatives, and contractor and equipment availability concerns. If the

construction of the remedy is to be accomplished by Settling Defendants' "in-house" resources, the document shall identify those resources.

3. Construction Management Plan

A Construction Management Plan shall be developed to indicate how the construction activities are to be implemented and coordinated with EPA during the RA. Settling Defendants shall designate a person to be a Remedial Action Coordinator and its representative on-site during the Remedial Action, and identify this person in the Plan. This Plan shall also identify other key project management personnel and lines of authority, and provide descriptions of the duties of the key personnel along with an organizational chart. In addition, a plan for the administration of construction changes and EPA review and approval of those changes shall be included.

4. Construction Quality Assurance Plan

Settling Defendants shall develop and implement a Construction Quality Assurance Program to ensure, with a reasonable degree of certainty, that the completed Remedial Action meets or exceeds all design criteria, plans and specifications, and Performance Standards. The Construction Quality Assurance Plan shall incorporate relevant provisions of the Performance Standards Verification Plan (see Task V). At a minimum, the Construction Quality Assurance Plan shall include the following elements:

- a. A description of the quality control organization, including a chart showing lines of authority, identification of the members of the Independent Quality Assurance Team (IQAT), and acknowledgment that the IQAT will implement the control system for all aspects of the work specified and shall report to the project coordinator and EPA. The IQAT members shall be representatives from testing and inspection organizations and/or the Supervising Contractor and shall be responsible for the QA/QC of the Remedial Action. The members of the IQAT shall have a good professional and ethical reputation, previous experience in the type of QA/QC activities to be implemented, and demonstrated capability to perform the required activities. They shall also be independent of the construction contractor.

- b. The name, qualifications, duties, authorities, and responsibilities of each person assigned a QC function.
- c. Description of the observations and control testing that will be used to monitor the construction and/or installation of the components of the Remedial Action. This includes information which certifies that personnel and laboratories performing the tests are qualified and the equipment and procedures to be used comply with applicable standards. Any laboratories to be used shall be specified. Acceptance/Rejection criteria and plans for implementing corrective measures shall be addressed.
- d. A schedule for managing submittals, testing, inspections, and any other QA function (including those of contractors, subcontractors, fabricators, suppliers, purchasing agents, etc.) that involve assuring quality workmanship, verifying compliance with the plans and specifications, or any other QC objectives. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, air quality particulate monitoring records and waste disposal records, etc.
- e. Reporting procedures and reporting format for QA/QC activities including such items as daily summary reports, schedule of data submissions, inspection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation.
- f. A list of definable features of the work to be performed. A definable feature of work is a task which is separate and distinct from other tasks and has separate control requirements.

5. Construction Health and Safety Plan/Contingency Plan

Settling Defendants shall prepare a Construction Health and Safety Plan/Contingency Plan in conformance with Settling Defendants' health and safety program, and in compliance with OSHA regulations. The Construction Health and Safety Plan shall include a health and safety risk analysis, a description of monitoring and personal protective equipment, medical monitoring, and site control. EPA will not approve Settling

Defendants' Construction Health and Safety Plan/Contingency Plan, but rather EPA will review it to ensure that all necessary elements are included, and that the plan provides for the protection of human health and the environment. This plan shall include a Contingency Plan and incorporate Air Monitoring and Spill Control and Countermeasures Plans if determined by EPA to be applicable for the Site. The Contingency Plan is to be written for the on-site construction workers and the local affected population. It shall include the following items:

- a. Name of person who will be responsible for coordinating responses in the event of an emergency incident.
- b. Plan for initial construction safety indoctrination and training for all employees/contractors, etc., participating in the RA, name of the person who will give the training and the topics to be covered.
- c. Plan and date for a pre-construction meeting or conference call to brief the local community, including local, state and federal agencies involved in the cleanup, as well as the local emergency squads and the local hospitals, regarding the schedule and expected activities to be conducted on-site.
- d. A list of the first aid and medical facilities including, location of first aid kits, names of personnel trained in first aid, a clearly marked map with the route to the nearest medical facility, all necessary emergency phone numbers conspicuously posted at the job site (i.e., fire, rescue, local hazardous material teams, National Emergency Response Team, etc.)
- e. Plans for protection of public and visitors to the job site.
- f. A Spill Control and Countermeasures Plan which, if determined to be applicable, shall include the following:
 - 1) Contingency measures for potential spills and discharges from materials handling and/or transportation.
 - 2) A description of the methods, means, and facilities required to prevent contamination of soil, water, atmosphere, and uncontaminated structures, equipment, or material by spills or discharges.

- 3) A description of the equipment and personnel necessary to perform emergency measures required to contain any spillage and to remove spilled materials and soils or liquids that become contaminated due to spillage. This collected spill material must be properly disposed of.
- 4) A description of the equipment and personnel to perform decontamination measures that may be required for previously uncontaminated structures, equipment, or material.

B. Preconstruction Conference

A Preconstruction Conference shall be held after selection of the construction contractor but before initiation of construction. This conference shall include Settling Defendants, EPA and NCDENR and may include other appropriate federal, state and local government agencies. The conference shall:

1. Define the roles, relationships, and responsibilities of all parties;
2. Review methods for documenting and reporting inspection data;
3. Review methods for distributing and storing documents and reports;
4. Review work area security and safety protocols;
5. Review the Construction Schedule;
6. Conduct a site reconnaissance to verify that the design criteria and the plans specifications are understood and to review material and equipment storage locations.

The Preconstruction Conference must be documented, including names of people in attendance, issues discussed, clarifications made, special instructions issued, etc.

C. Prefinal Construction Inspection

Upon preliminary project completion Settling Defendants shall notify EPA for the purpose of conducting a Prefinal Construction Inspection. Participants should include the Project Coordinators, Supervising Contractor, Construction Contractor, Natural Resource Trustees and other federal, state, and local agencies with a jurisdictional interest. The Prefinal Inspection shall consist of a walk-

through inspection of the project site. The objective of the inspection is to determine whether the construction is complete and consistent with the Consent Decree. Any outstanding construction items discovered during the inspection shall be identified and noted on a punch list. Additionally, treatment equipment shall be operationally tested by Settling Defendants. Settling Defendants shall certify that the equipment has performed to effectively meet the purpose and intent of the specifications. Retesting shall be completed where deficiencies are revealed. A Prefinal Construction Inspection Report shall be submitted by Settling Defendants which outlines the outstanding construction items, actions required to resolve the items, completion date for the items, and an anticipated date for the Final Inspection.

D. Final Construction Inspection

Upon completion of all outstanding construction items, Settling Defendants shall notify EPA for the purpose of conducting a Final Construction Inspection. The Final Construction Inspection shall consist of a walk-through inspection of the project site. The Prefinal Construction Inspection Report shall be used as a check list with the Final Construction Inspection focusing on the outstanding construction items identified in the Prefinal Construction Inspection. All tests that were originally unsatisfactory shall be conducted again. Confirmation shall be made during the Final Construction Inspection that all outstanding items have been resolved. Any outstanding construction items discovered during the inspection still requiring correction shall be identified and noted on a punch list. If any items are still unresolved, the inspection shall be considered to be a Prefinal Construction Inspection requiring another Prefinal Construction Inspection Report and subsequent Final Construction Inspection.

E. Interim Remedial Action Report

Within sixty (60) days following the conclusion of the Final Construction Inspection, Settling Defendants shall submit an Interim Remedial Action (RA) Report. EPA will review the draft report and will provide comments to Settling Defendants. The Interim RA Report shall be generally consistent with EPA guidance for preparing the report (*Close Out Procedures for National Priorities List Sites*, EPA, OSWER Directive 9320.2-09A-P) and include the following:

1. Introduction, providing a brief history and description of the Site
2. Construction Activities
3. Chronology of Events

4. Performance Standards and Construction Quality Control
5. Final Inspection and Certifications
6. Operation and Maintenance Activities

After EPA review, Settling Defendants shall address any comments and submit a revised report. The Remedial Action shall be complete when EPA approves the Interim RA Report.

TASK IV – INSTITUTIONAL CONTROLS

Within 30 days of EPA approval of the Interim RA Report the Settling Defendants' shall submit a format of the proposed easement and deed restriction agreement for the Site. Upon EPA and State approval the Settling Defendant shall pursue execution of the easement with the property owner, and will execute and record the agreement in the appropriate office of Johnston County, State of North Carolina. A copy of the completed document will be provided to EPA and the State.

TASK V GROUNDWATER DESIGN STUDY

The Groundwater Remedial Design shall provide the technical details for implementation of the Groundwater Remedial Action in accordance with currently accepted environmental protection technologies and standard professional engineering and construction practices. The design shall include clear and comprehensive design plans and specifications.

All plans, specifications, submittals, and other deliverables shall be subject to EPA review and approval in accordance with Section XI of the Consent Decree. Review and/or approval of design submittals only allows Settling Defendants to proceed to the next step of the design process. It does not imply acceptance of later design submittals that have not been reviewed, nor that the remedy, when constructed, will meet Performance Standards.

A. Preliminary Groundwater Sampling

Within sixty (60) days of EPA approval of the Soil Final Design a schedule for a preliminary groundwater sampling event will be submitted.

B. Remedial Design Planning

Within sixty (60) days of EPA approval of the Interim Remedial Action Report for Soils Settling Defendants shall submit a Groundwater Design Study Plan. This document will provide an evaluation of the additional data needed for the groundwater design including: additional well locations, soil parameters, groundwater parameters, summary of the additional potential testing locations for those parameters and a schedule for any proposed sampling events. This Plan may also investigate (through treatability and/or pilot test studies if necessary) the optimal combination of materials and in-situ reactive treatment techniques, including the feasibility and applicability of a permeable reactive barrier, to treat groundwater.

The Groundwater Design Study Plan shall also include a Sampling and Analysis Plan and Health and Safety Plan consistent with Task II of this SOW. If applicable, the Sampling and Analysis Plan and Health and Safety Plan approved during Task II may be modified for Groundwater Remediation activities.

Within 60 days of receipt of the validated data for the Groundwater Design Study Plan the Settling Defendants shall submit a Groundwater Study Summary Report. In addition to the summary of the sampling data, information obtained from the evaluation of similar Site designs will be summarized in this report.

Within 60 days of EPA approval of the Groundwater Study Summary Report, the Settling Defendants shall submit a draft Remedial Design Work Plan consistent with Section II of this document.

B. Prefinal/Final Design

The Settling Defendants shall submit the Prefinal Design when the design work is approximately 90 percent complete in accordance with the approved design management schedule. The Prefinal Design shall function as the draft version of the Final Design.

TASK VI - GROUNDWATER REMEDIAL ACTION

Remedial Action shall be performed by Settling Defendants to implement the response actions selected in the ROD. The documents, meetings and inspections required for this task shall be consistent with the requirements of Task III of this document.

A. Remedial Action Planning

Within sixty (60) days of EPA approval of the Groundwater Final Design, Settling Defendants shall submit a draft Groundwater Remedial Action (RA) Work Plan, Project Delivery Strategy, a Construction Management Plan, a Construction Quality Assurance Plan, and a Construction Health and Safety Plan/Contingency Plan. The RA Work Plan, Project Delivery Strategy, Construction Management Plan, and Construction Quality Assurance Plan must be reviewed and approved by EPA and the Construction Health and Safety Plan/Contingency Plan reviewed by EPA prior to the initiation of the Remedial Action.

Upon approval of the RA Work Plan, Settling Defendants shall implement the RA Work Plan in accordance with the construction management schedule. Significant field changes to the RA as set forth in the RA Work Plan shall not be undertaken without the approval of EPA. The RA shall be documented in enough detail to produce as-built construction drawings after the RA is complete. Deliverables shall be submitted to EPA for review and approval in accordance with Section XI of the Consent Decree. Review and/or approval of submittals does not imply acceptance of later submittals that have not been reviewed, nor that the remedy, when constructed, will meet Performance Standards.

B. Preconstruction Conference

A Preconstruction Conference shall be conducted consistent with Section III of this document

C. Prefinal Construction Inspection

D. Final Construction Inspection

A Final Construction Inspection shall be conducted consistent with Section III of this document

E. Interim Remedial Action Report

An Interim Remedial Action Report shall be submitted consistent with Section III of this document.

After EPA review, Settling Defendants shall address any comments and submit a revised report. The Remedial Action shall be complete when EPA approves the Interim RA Report.

TASK VII OPERATION AND MAINTENANCE

Operation and Maintenance (O&M) shall be performed in accordance with the approved Operation and Maintenance Plan.

A. Operation and Maintenance Plan

At the 90 percent (Prefinal) design stage for the Groundwater Design, Settling Defendants shall submit an Operation and Maintenance Plan for review. The Operation and Maintenance Plan must be reviewed and approved by EPA prior to initiation of Operation and Maintenance activities. If necessary, the Operation and Maintenance Plan shall be modified to incorporate any design modifications implemented during the Remedial Action.

Upon approval of the Operation and Maintenance Plan, Settling Defendants shall implement the Operation and Maintenance Plan in accordance with the schedule contained therein. This plan shall describe start-up procedures, operation, troubleshooting, training, and evaluation activities that shall be carried out by Settling Defendants. The plan shall address the following elements:

1. Description of normal operation and maintenance;
 - a. Description of tasks required;
 - b. Schedule showing the required frequency for each O&M task.
2. Description of potential operating problems;
 - a. Description and analysis of potential maintenance problems;
 - b. Sources of information regarding problems; and
 - c. Common remedies or anticipated corrective actions.
3. Description of routine monitoring and laboratory testing;
 - a. Description of monitoring tasks;
 - b. Description of required laboratory tests and their interpretation;
 - c. Required QA/QC; and

- d. Schedule of monitoring frequency and date, if appropriate, when monitoring may cease.
- 4. Safety Plan;
 - a. Description of precautions to be taken and required health and safety equipment, etc., for Site personnel protection, and
 - b. Safety tasks required.
- 5. Description of equipment;
 - a. Equipment identification;
 - b. Installation of monitoring components;
 - c. Maintenance of Site equipment; and
 - d. Replacement schedule for equipment and installation components.
- 6. Records and reporting;
 - a. Laboratory records;
 - b. Records of operating cost;
 - c. Mechanism for reporting emergencies;
 - d. Personnel and Maintenance Records; and
 - e. Quarterly reports to State/Federal Agencies.

B. Operation and Maintenance Manual

At the Prefinal/Final design stage, Settling Defendants shall submit an O&M manual for review. This manual shall include all necessary O&M information for the operating personnel. The O&M manual must be reviewed and approved by EPA prior to initiation of Operation and Maintenance activities.

TASK VIII - PERFORMANCE MONITORING

Performance monitoring shall be conducted to ensure that the Performance Standards are met.

A. Performance Standards Verification Plan

The purpose of the Performance Standards Verification Plan is to provide a mechanism to ensure that both short-term and long-term Performance Standards for the Remedial Action are met. Guidances used in developing the Sampling and Analysis Plan during the Remedial Design phase shall be used. Settling Defendants shall submit a Performance Standards Verification Plan with the Prefinal Design. Once approved, Settling Defendants shall implement the Performance Standards Verification Plan on the approved schedule. The Performance Standards Verification Plan shall include:

1. The Performance Standards Verification Field Sampling and Analysis Plan that provides guidance for all fieldwork by defining in detail the sampling and data gathering methods to be used. The Performance Standards Verification Field Sampling and Analysis Plan shall be written so that a field sampling team unfamiliar with the Site would be able to gather the samples and field information required.
2. The Performance Standards Verification Quality Assurance/Quality Control plan that describes the quality assurance and quality control protocols which will be followed in demonstrating compliance with Performance Standards.
3. Specification of those tasks to be performed by Settling Defendants to demonstrate compliance with the Performance Standards and a schedule for the performance of these tasks.

REFERENCES

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RD/RA process. Settling Defendants shall review these guidances and the most recent updates and shall use the information provided therein in performing the RD/RA and preparing all deliverables under this SOW.

1. "National Oil and Hazardous Substances Pollution Contingency Plan, Final Rule", Federal Register 40 CFR Part 300, March 8, 1990.
2. "Remedial Design/Remedial Action Handbook," U.S. EPA, Office of Emergency and Remedial Response, June 1995, OSWER Directive No. 9355.O-4B.
3. "Interim Final Guidance on Oversight of Remedial Designs and Remedial Actions Performed by Potentially Responsible Parties," U.S. EPA, Office of Emergency and Remedial Response, February 14, 1990, OSWER Directive No. 9355.5-01.
4. "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final," U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 355.3-01.
5. "Interim Final Guidance on Data Quality Objectives Process for Superfund," U.S. EPA, Office of Solid Waste and Emergency Response, EPA/540/G-93/071, September 1993, OSWER Directive No. 9335.9-01.
6. "Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29, 1980.
7. "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.
8. "Environmental Investigations Standard Operating Procedures and Quality Assurance Manual," U.S. EPA Region IV, Science and Ecosystem Support Division, November 2001, (revised periodically).
9. "USEPA Contract Laboratory Program Statements of Work for Inorganics Analysis (ILM05.4) and Organics Analysis (SOM01.1)," U.S. EPA, Office of Emergency and Remedial Response.

10. "Quality in the Constructed Project: A Guideline for Owners, Designers, and Constructors, Volume 1, Preliminary Edition for Trial Use and Comment," American Society of Civil Engineers, May 1988.
11. "Interim Guidance on Compliance with Applicable or Relevant and Appropriate Requirements," U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.
12. "CERCLA Compliance with Other Laws Manual," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (Draft), OSWER Directive No. 9234.1-01 and -02.
13. "Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites," U.S. EPA, Office of Emergency and Remedial Response, (Draft), OSWER Directive No. 9283.1-2.
14. "Guide for Conducting Treatability Studies Under CERCLA," U.S. EPA, Office of Emergency and Remedial Response, Pre-publication Version.
15. "Health and Safety Requirements of Employees Employed in Field Activities," U.S. EPA, Office of Emergency and Remedial Response, July 12, 1981, EPA Order No. 1440.2.
16. "Standard Operating Safety Guides," U.S. EPA, Office of Emergency and Remedial Response, November 1984.
17. "Standards for General Industry," 29 CFR Part 1910, Occupational Health and Safety Administration.
18. "Standards for the Construction Industry," 29 CFR 1926, Occupational Health and Safety Administration.
19. "NIOSH Manual of Analytical Methods," 2d edition. Volumes I - VII, or the 3rd edition, Volumes I and II, National Institute of Occupational Safety and Health.
20. "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities," National Institute of Occupational Safety and Health/Occupational Health and Safety Administration/United States Coast Guard/ Environmental Protection Agency, October 1985.

21. "TLVs - Threshold Limit Values and Biological Exposure Indices for 1987 - 88," American Conference of Governmental Industrial Hygienists.
22. "American National Standards Practices for Respiratory Protection," American National Standards Institute Z88.2-1980, March 11, 1981.

SUMMARY OF THE MAJOR DELIVERABLES FOR THE
REMEDIAL DESIGN AND REMEDIAL ACTION AT THE
GURLEY PESTICIDE BURIAL SITE
SELMA, NORTH CAROLINA

<u>DELIVERABLE</u>	<u>EPA RESPONSE</u>
<u>TASK I</u>	<u>COMMUNITY RELATIONS</u>
Technical Assistance Plan	Review and Approve
<u>TASK II</u>	<u>SOIL REMEDIAL DESIGN</u>
RD Work Plan (6)	Review and Approve
Sampling and Analysis Plan (6)	Review and Approve
Health and Safety Plan (1)	Review and Comment
Prefinal/Final Design	
Complete Design Analyses (6)	Review and Approve
Final Plans and Specifications (6)	Review and Approve
Final Construction Schedule (6)	Review and Approve
<u>TASK III</u>	<u>SOIL REMEDIAL ACTION</u>
RA Work Plan (6)	Review and Approve
Project Delivery Strategy (6)	Review and Approve
Construction Management Plan (6)	Review and Approve
Construction Quality Assurance Plan (6)	Review and Approve
Construction Health and Safety Plan/Contingency Plan (6)	Review and Comment

Prefinal Construction
Inspection Report (6)

Review and Approve

Interim RA Report (5)

Review and Approve

TASK IV – INSTITUTIONAL CONTROLS

Institutional Control Plan (6)

Review and Approve

TASK V - GROUNDWATER DESIGN STUDY

Design Study Plan (6)

Review and Approve

Study Summary Report (6)

Review and Approve

A. Remedial Design Planning

RD Work Plan (6)

Review and Approve

Sampling and Analysis Plan (6)

Review and Approve

Health and Safety Plan (1)

Review and Comment

Complete Design Analyses (6)

Review and Approve

Final Plans and

Specifications (6)

Review and Approve

Final Construction Schedule (6)

Review and Approve

B. Prefinal/Final Design

Complete Design Analyses (6)

Review and Approve

Final Plans and
Specifications (6)

Review and Approve

Final Construction Schedule (6)

Review and Approve

RA Work Plan (6)	Review and Approve
Project Delivery Strategy (6)	Review and Approve
Construction Management Plan (6)	Review and Approve
Construction Quality Assurance Plan (6)	Review and Approve
Construction Health and Safety Plan/Contingency Plan (6)	Review and Comment
Prefinal Construction Inspection Report (6)	Review and Approve
Interim RA Report (5)	Review and Approve

TASK VII OPERATION AND MAINTENANCE

Operation and Maintenance Plan (6)	Review and Approve
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TASK VIII PERFORMANCE MONITORING

Performance Standards Verification Plan (6)	Review and Approve
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* NOTE: The number in parenthesis indicates the number of copies to be submitted by Settling Defendants.